

CLAIMS

What is claimed is:

1. A method for interacting with a client in a distributed computing environment having a plurality of computing nodes interconnected to form a cluster, the method comprising:
 - connecting a client to a master node of the cluster;
 - associating a message list to the client on the master node;
 - performing tasks for the client on a plurality of nodes of the cluster;
 - detecting an event while performing one of the tasks;
 - storing a message on the message list descriptive of the detected event;and
communicating the message to the client.
2. The method of Claim 1 wherein the event is detected on a node different from the master node.
3. The method of Claim 1 further comprising, on the master node, establishing an object unique to the client for interfacing with the client.
4. The method of Claim 3 wherein the object is accessible across the cluster.
5. The method of Claim 1 wherein communicating comprises formatting a message code into a message string.
6. The method of Claim 1 wherein storing comprises formatting a message code into a message string.

7. The method of Claim 1 further comprising structuring the message list as a stack.
8. The method of Claim 1 further comprising failing over the master node to another node on the cluster in response to a failover event on the master node.
9. The method of Claim 1 wherein the event is an error event.
- 5 10. The method of Claim 1 wherein the event is a dialogue event.
11. A method for interacting with a client in a distributed computing environment having a plurality of computing nodes interconnected to form a cluster, the method comprising:
 - 10 connecting a client to a master node of the cluster;
 - creating a distributed object on the master node to interface with the client;
 - associating a client manager having a message list with the client on the master node;
 - 15 performing tasks for the client on a plurality of nodes of the cluster;
 - detecting an event while performing one of the tasks;
 - storing a message on the error list descriptive of the detected event; and
 - communicating the message to the client through the distributed object.
12. The method of Claim 11 further comprising, in the client manager, tracking a plurality of contexts for the client, each context having a respective message list.
- 20 13. The method of Claim 11 wherein the event is detected on a node different from the master node.

14. The method of Claim 11 wherein communicating comprises formatting a message code into a message string.
15. The method of Claim 11 wherein storing comprises formatting a message code into a message string.
- 5 16. The method of Claim 11 further comprising structuring the message list as a stack.
17. The method of Claim 11 further comprising failing over the master node to another node on the cluster in response to a failover event on the master node.
18. The method of Claim 11 wherein the event is an error event.
- 10 19. The method of Claim 11 wherein the event is a dialogue event.
20. A system for interacting with a client in a distributed computing environment having a plurality of computing nodes interconnected to form a cluster, the system comprising:
 - 15 a master node of the cluster connected to a client;
 - a message list associated with the client on the master node;
 - a plurality of tasks executing for the client on a plurality of nodes of the cluster;
 - an event detected while performing one of the tasks;
 - a message stored on the message list descriptive of the detected event;
 - 20 and
 - an interface for communicating the message to the client.

21. The system of Claim 20 wherein the event is detected on a node different from the master node.
22. The system of Claim 20 further comprising, on the master node, an object unique to the client for interfacing with the client.
- 5 23. The system of Claim 22 wherein the object is accessible across the cluster.
24. The system of Claim 20 wherein a message code is formatted into a message string for communication to the client.
25. The system of Claim 20 wherein a message code is formatted into a message string for storage on the message list.
- 10 26. The system of Claim 20 wherein the message list is structured as a stack.
27. The system of Claim 20 further comprising a fail safe module for failing over the master node to another node on the cluster in response to a failover event on the master node.
28. The system of Claim 20 wherein the event is an error event.
- 15 29. The system of Claim 20 wherein the event is a dialogue event.
30. A system for interacting with a client in a distributed computing environment having a plurality of computing nodes interconnected to form a cluster, the system comprising:
- 20 a master node of the cluster connected to a client;
- a distributed object on the master node to interface with the client;

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a plurality of tasks for the client executing on a plurality of nodes of the cluster;

5 an event detected while performing one of the tasks;

a message stored on the error list descriptive of the detected event; and

an interface for communicating the message to the client through the distributed object.

31. The system of Claim 30 further comprising a plurality of contexts for the client,
10 each context having a respective message list and tracked by the client manager.

32. The system of Claim 30 wherein the event is detected on a node different from the master node.

33. The system of Claim 30 wherein a message code is formatted into a message string for communication to the client.

15 34. The system of Claim 30 wherein a message code is formatted into a message string for storage on the message list.

35. The system of Claim 30 wherein the message list is structured as a stack.

36. The system of Claim 30 further comprising a fail over module for failing over the master node to another node on the cluster in response to a failover event on the master node.

37. The system of Claim 30 wherein the event is an error event.

38. The system of Claim 30 wherein the event is a dialogue event.
39. An article of manufacture, comprising
- 5 a computer usable medium;
- a set of program instructions recorded on the medium, including a method
- for interacting with a client in a distributed computing environment having a
- plurality of computing nodes interconnected to form a cluster, the method
- comprising:
- 10 connecting a client to a master node of the cluster;
- associating a message list to the client on the master node;
- performing tasks for the client on a plurality of nodes of the
- 15 cluster;
- detecting an event while performing one of the tasks;
- storing a message on the message list descriptive of the detected
- event; and
- communicating the message to the client.
40. The article of Claim 39 wherein the event is detected on a node different from the
- master node.
41. The article of Claim 39 wherein the method further comprises, on the master
- node, establishing an object unique to the client for interfacing with the client.
- 20 42. The article of Claim 41 wherein the object is accessible across the cluster.
43. The article of Claim 39 wherein communicating comprises formatting a message
- code into a message string.

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44. The article of Claim 39 wherein storing comprises formatting a message code into a message string.
45. The article of Claim 39 wherein the method further comprises structuring the message list as a stack.
- 5 46. The article of Claim 39 wherein the method further comprises failing over the master node to another node on the cluster in response to a failover event on the master node.
47. The article of Claim 39 wherein the event is an error event.
48. The article of Claim 39 wherein the event is a dialogue event.
- 10 49. An article of manufacture, comprising:
- a computer usable medium;
- a set of program instructions recorded on the medium, including a method for interacting with a client in a distributed computing environment having a plurality of computing nodes interconnected to form a cluster, the method comprising:
- 15
- connecting a client to a master node of the cluster;
- creating a distributed object on the master node to interface with the client;
- associating a client manager having a message list with the client
- 20
- on the master node;
- performing tasks for the client on a plurality of nodes of the cluster;
- detecting an event while performing one of the tasks;

storing a message on the error list descriptive of the detected event; and
communicating the message to the client through the distributed object.

- 5 50. The article of Claim 49 wherein the method further comprises, in the client manager, tracking a plurality of contexts for the client, each context having a respective message list.
51. The article of Claim 49 wherein the event is detected on a node different from the master node.
- 10 52. The article of Claim 49 wherein communicating comprises formatting a message code into a message string.
53. The article of Claim 49 wherein storing comprises formatting a message code into a message string.
54. The article of Claim 49 wherein the method further comprises structuring the message list as a stack.
- 15 55. The article of Claim 49 wherein the method further comprises failing over the master node to another node on the cluster in response to a failover event on the master node.
56. The article of Claim 49 wherein the event is an error event.
- 20 57. The article of Claim 49 wherein the event is a dialogue event.

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